

Title (en)

ELECTRODE FOR BIOSENSOR FOR NADH MEASUREMENT AND MANUFACTURING METHOD THEREFOR

Title (de)

ELEKTRODE FÜR BIOSENSOR ZUR MESSUNG VON NADH UND HERSTELLUNGSVERFAHREN DAFÜR

Title (fr)

ÉLECTRODE POUR BIOCAPTEUR POUR MESURE DE NADH ET SON PROCÉDÉ DE FABRICATION

Publication

EP 3736565 A4 20210915 (EN)

Application

EP 18898135 A 20181228

Priority

- KR 20180000408 A 20180102
- KR 2018016829 W 20181228

Abstract (en)

[origin: EP3736565A1] The present invention relates to an electrode for a biosensor for NADH measurement and a manufacturing method therefor. An electrode manufactured by the method according to the present invention enjoys the advantages of stabilizing current flow during an electric polymerization reaction, making the contact angle of the modified material remarkably small to increase the efficiency of surface modification, and being reusable several times. In addition, when applied to a biosensor for NADH measurement, the electrode of the present invention maintains sensitivity and selectivity at a high level without interference and thus easily measures a target of interest even in blood or serum that necessarily requires a pretreatment process due to the existence of a trace amount of a material to be measured. In addition, when applied to a biosensor for NADH measurement, the electrode can measure cell viability in a continuous manner and in real time, which leads to the application thereof to the cell toxicity assay field, and enables the measurement of cell viability in apoptotic cells lacking the mitochondrial function.

IPC 8 full level

G01N 27/327 (2006.01); **C12Q 1/00** (2006.01); **G01N 33/573** (2006.01)

CPC (source: EP KR US)

C12Q 1/001 (2013.01 - EP); **C12Q 1/008** (2013.01 - EP KR); **G01N 27/3272** (2013.01 - KR); **G01N 27/3275** (2013.01 - KR);
G01N 27/3276 (2013.01 - EP); **G01N 27/3277** (2013.01 - US)

Citation (search report)

- [XI] RETNA RAJ C ET AL: "Electrocatalytic sensing of NADH at an in situ functionalized self-assembled monolayer on gold electrode", ELECTROCHEMISTRY COMMUNICATIONS, ELSEVIER AMSTERDAM, NL, vol. 3, no. 11, 1 November 2001 (2001-11-01), pages 633 - 638, XP027401363, ISSN: 1388-2481, [retrieved on 20011101], DOI: 10.1016/S1388-2481(01)00239-9
- [I] ÜZER AYSEM ET AL: "Electrochemical Determination of Food Preservative Nitrite with Gold Nanoparticles/p-Aminothiophenol-Modified Gold Electrode", INT. J. MOL. SCI., vol. 17, no. 8, 2 August 2016 (2016-08-02), pages 1253, XP055829661, ISSN: 1661-6596, DOI: 10.3390/ijms17081253
- See references of WO 2019135556A1

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)

EP 3736565 A1 20201111; EP 3736565 A4 20210915; CN 111542751 A 20200814; JP 2021509719 A 20210401; JP 7037659 B2 20220316;
KR 102029957 B1 20191008; KR 20190082599 A 20190710; US 11782010 B2 20231010; US 2021055251 A1 20210225;
WO 2019135556 A1 20190711

DOCDB simple family (application)

EP 18898135 A 20181228; CN 201880084939 A 20181228; JP 2020536849 A 20181228; KR 20180000408 A 20180102;
KR 2018016829 W 20181228; US 201816959506 A 20181228